

AMENDMENTS TO THE CLAIMS

Listing of claims:

1. (Currently Amended) A method ~~of servicing a catalytic reactor system~~, comprising:
operating a process using a catalytic reactor system comprising a catalyst, whereby the process produces at least one hazardous substance;
discontinuing operation of the process; and
abating the ~~an abatement of~~ at least one hazardous substance from the catalytic reactor system while preserving activity of ~~a~~ the catalyst contained therein.
2. (Original) The method of claim 1, wherein the abatement comprises an oxidation of the at least one hazardous substance.
3. (Original) The method of claim 2, wherein the oxidation of the at least one hazardous substance occurs at a temperature of from about 350° F to about 500° F.
4. (Original) The method of claim 1, wherein the at least one hazardous substance is abated to a safe exposure level.
5. (Original) The method of claim 1, wherein the at least one hazardous substance comprises benzene.
6. (Original) The method of claim 2, further comprising monitoring an amount of the at least one hazardous substance and controlling the oxidation of the at least one hazardous substance in response thereto.

7. (Original) The method of claim 6, wherein the monitoring the at least one hazardous substance further comprises obtaining samples at an inlet and an outlet of the catalytic reactor system.

8. (Original) The method of claim 6, wherein the at least one hazardous substance is abated to a safe exposure level.

9. (Original) The method of claim 6, wherein the at least one hazardous substance comprises benzene, and the benzene is abated to an amount less than about 1 ppmv.

10. (Currently Amended) The method of claim 1, wherein the catalyst activity is substantially the same before and after the ~~servicing~~abatement.

11. (Currently Amended) The method of claim 10, wherein the catalyst activity as measured by T-eq after the ~~servicing~~abatement is within about 20° F of the catalyst activity before the ~~servicing~~abatement.

12. (Currently Amended) The method of claim 1, wherein the catalyst activity as measured by T-eq before the ~~servicing~~abatement is at least about 30° F below an end-of-cycle T-eq.

13. (Currently Amended) The method of claim 1, wherein a fouling rate as measured by change in T-eq per week increases by no more than about 30% after the ~~servicing~~abatement.

14. (Original) The method of claim 1, wherein the catalytic reactor system is a fixed bed reactor system.

15. (Original) The method of claim 1, wherein the catalytic reactor system is a reforming reactor system.

16. (Original) The method of claim 15, wherein the reforming reactor system comprises a plurality of reactors.

17. (Original) The method of claim 1, wherein the catalyst is a reforming catalyst.

18. (Original) The method of claim 1, wherein the catalyst is a platinum catalyst.

19. (Original) The method of claim 1, wherein the catalyst has one or more cycles of catalyst activity.

20. (Currently Amended) The method of claim 1, ~~wherein the servicing comprises further~~ comprising dumping and screening the catalyst subsequent to abating.

21. (Currently Amended) The method of claim 1, ~~wherein the servicing comprises further~~ comprising replacing ~~a spent the~~ catalyst subsequent to abating.

22. (Currently Amended) The method of claim 21, further comprising reclaiming metal from the ~~spent~~ catalyst.

23. (Currently Amended) The method of claim 20, further comprising reloading the catalyst ~~after servicing and subsequently starting up the catalytic reactor system~~ subsequent to dumping and screening.

24. (Currently Amended) A method ~~of servicing a catalytic reactor system~~, comprising:
oxidizing ~~the a~~ catalytic reactor system at a temperature of from about 350° F to about 500° F to abate at least one hazardous substance from the catalytic reactor system, ~~and~~
wherein a time required to perform the oxidation is at least reducing servicing time
~~by~~ about 50% less than of a time required for complete regenerative oxidation of the catalytic reactor system.

25. (Original) The method of claim 24, wherein the at least one hazardous substance is abated to a safe exposure level.

26. (Currently Amended) A method ~~of servicing a catalytic reactor system~~, comprising:
operating a process using a catalytic reactor system comprising a catalyst, whereby
the process produces at least one hazardous substance;
discontinuing operation of the process;

abating the at least one hazardous substance from the catalytic reactor system such that a fouling rate of the a-catalyst contained therein is substantially the same before and after the servicing abating; and
restarting operation of the process using the catalyst.

27. (Currently Amended) A method ~~of controlling an oxidation procedure in a catalytic reactor system,~~ comprising:

- a) —oxidizing the a catalytic reactor system at a temperature of from about 350° F to about 500 °F;
- b) —monitoring abatement of at least one hazardous substance within the catalytic reactor system; and
- e) —controlling the oxidation in response to the monitoring such that an activity of a catalyst contained therein is preserved as measured by T-eq after the oxidizing is within about 20°F of the catalyst activity before the oxidizing and the at least one hazardous substance is oxidized to a safe exposure level.

28. (Original) The method of claim 27, wherein the oxidation is stopped before regenerating the catalyst in order to preserve catalyst life.

29. (New) The method of claim 8, further comprising gradually reducing the system pressure to about 15 psig to evolve any remaining hazardous substances, wherein the system pressure is reduced after the at least some of the hazardous substance is abated to a safe exposure level.

30. (New) The method of claim 1, further comprising: regenerating the catalyst subsequent to abating.

31. (New) The method of claim 1, further comprising: removing hydrocarbons from the catalytic reactor system subsequent to discontinuing and prior to abating.

32. (New) The method of claim 1, wherein the oxygen concentration in the catalytic reactor system during the abating is from about 0.005 mol% to about 5 mol%.

33. (New) The method of claim 1, further comprising: restarting operation of the process using the catalyst.